

Patent claims

1. A mobile digital computer with a removable input device for inputting relative location data for controlling a cursor on a display by means of a corresponding movement of a hand or at least one finger of a hand of a user, wherein the input device can control the cursor on the display both in a first operating state in which the input device is not removed and in a second operating state in which the input device is removed.
2. The digital computer as claimed in claim 1, characterized by a central processing unit, wherein the input device is coupled to the central processing unit via a cable-connected data communication device in the second operating state.
3. The digital computer as claimed in claim 1, characterized by a central processing unit, wherein the input device is coupled to the central processing unit via a separable cable-connected data communication device in the second operating state.
4. The digital computer as claimed in claim 3, characterized in that the cable-connected data communication device comprises a cable piece which is equipped with a plug-in connector device at least at the end facing the input device and/or at the end facing the central processing unit.
5. The digital computer as claimed in claim 1, characterized by a central processing unit, wherein the input device is coupled to the central processing unit via a wireless data communication device in the second operating state.
6. The digital computer as claimed in claim 5, characterized in that the wireless data communication device is an infrared data transmission device.
7. The digital computer as claimed in claim 5, characterized in that the wireless data communication device is a radio-frequency radio data transmission device.

8. The digital computer as claimed in one of claims 1 to 7, characterized in that the input device is a mouse device which can be removably inserted into a recess of a digital computer housing and which has on the top an additional slide pad.

9. The digital computer as claimed in one of claims 1 to 7, characterized in that the input device is a removable mouse device which can be inserted into a recess of a housing and which has on the top an additional trackball device.

10. The digital computer as claimed in one of claims 8 or 9, characterized in that the recess is a bay in the front edge of the keyboard leaf of a two-leafed notebook.

11. The digital computer as claimed in one of claims 1 to 10, characterized in that the input device is fed by a battery which is arranged in an input device housing.

12. The digital computer as claimed in claim 11, characterized in that a power source arranged in the digital computer housing can charge the battery in the first operating state.

13. The digital computer as claimed in one of claims 2 to 12, characterized by a security data storage device arranged in the input device for storing data for the identification and/or authentication of at least one user.

14. The digital computer as claimed in claim 13, characterized by a security device, the security device reading data out of the security data storage device and, in dependence on the data read out, produces a blocking state of operation in which at least one function of use is completely or partially blocked.

15. The digital computer as claimed in claim 14, characterized in that the security device produces the blocking state of operation in particular when no data communication with the input device comes into being.

16. The digital computer as claimed in claim 15, characterized in that the security device cancels the blocking state of operation in particular when a data communication with the input device comes into being and the transmitted data satisfy predetermined conditions.

17. The digital computer as claimed in claim 16, characterized in that the security device, before canceling the blocking state of operation, carries out a user identification by means of user identification data stored in the security data storage device.

18. The digital computer as claimed in claim 17, characterized in that the security device, before canceling the blocking state of operation and after the user identification, carries out a user authentication by means of a password or PIN interrogation.

19. The digital computer as claimed in claim 17, characterized in that the security device, before canceling the blocking state of operation and after the user identification, carries out a user authentication by means of user authentication data stored in the security data storage device.

20. The digital computer as claimed in one of claims 1 to 19, characterized by a configuration device, the configuration device being able to automatically perform a corresponding configuration in dependence on the input device.

21. The digital computer as claimed in claim 20, characterized in that the input device is set up for interaction with external devices.

22. The digital computer as claimed in claim 21, characterized in that the external device is a motor vehicle.

23. The digital computer as claimed in claim 22, characterized in that the external device is a building control unit.

24. The digital computer as claimed in claim 22, characterized in that the external device is an entertainment electronics device control.

25. The digital computer as claimed in claim 22, characterized in that the external device is a house monitoring device.

26. The digital computer as claimed in claim 22, characterized in that the external device is a vending machine.

27. The digital computer as claimed in claim 22, characterized in that the external device is an official person identification device.

28. The digital computer as claimed in claim 21 to 27, characterized in that the input device can provide the external device with identification information and/or authentication information and/or configuration information.

29. The digital computer as claimed in one of claims 1 to 28, characterized in that the input device is set up for storing personal data.

30. The digital computer as claimed in claim 29, characterized in that the personal data comprise at least one data element from the group containing biometric data, age group features, age data, name data, birth data, residence data, property data.

31. The digital computer as claimed in one of claims 1 to 30, characterized in that at least one function of the input device is blocked until a specific interaction of the user has taken place.

32. The digital computer as claimed in claim 31, characterized in that the specific interaction includes an input of a specific information item and/or an interaction with a specific object.

33. The digital computer as claimed in claim 32, characterized in that the specific information item is a password or a PIN or TAN.

34. The digital computer as claimed in claim 32, characterized in that the specific object is a mechanical key or a chip card or a document.

35. The digital computer as claimed in one of claims 1 to 34, characterized in that the input device comprises an input device display for displaying texts and/or graphical information.

36. The digital computer as claimed in claim 35, characterized in that the input device display comprises a touch screen display.

37. The digital computer as claimed in claim 36, characterized in that the input device is set up for receiving relative location data input by the user by means of the touch screen display.

38. The digital computer as claimed in claim 37, characterized in that the input device is set up for triggering at least one selection process by operating the touch screen display.

39. An input device for inputting relative location data for controlling a cursor on a display of a computer by means of a corresponding movement of a hand or of at least one finger of a hand of a user, which is set up for providing, by coupling to

at least one external device, identification data and/or authentication data and/or configuration data for the external device.

40. The input device as claimed in claim 39, characterized in that the input device is coupled to a central processing unit of the external device via a cable-connected data communication device.

41. The input device as claimed in claim 40, characterized in that the input device is coupled to the central processing unit via a separable cable-connected data communication device.

42. The input device as claimed in claim 41, characterized in that the cable-connected data communication device comprises a piece of cable which is equipped with a plug-in connector device at least at the end facing the input device and/or at the end facing the central processing unit.

43. The input device as claimed in claim 39, characterized in that the input device is coupled to a central processing unit of the external device via a wireless data communication device.

44. The input device as claimed in claim 43, characterized in that the wireless data communication device is an infrared data transmission device.

45. The input device as claimed in claim 43, characterized in that the wireless data communication device is a radio-frequency radio data transmission device.

46. The input device as claimed in one of claims 39 to 45, characterized by a battery which is arranged in an input device housing.

47. The input device as claimed in claim 46, characterized in that a power source arranged in the external device can charge the battery.

48. The input device as claimed in one of claims 39 to 47, characterized by a security data storage device for storing data for the identification and/or authentication of at least one user.

49. The input device as claimed in claim 48, characterized in that the input device is set up, that the external device exhibits a security device, the security device detecting data from the security data storage device and, in dependence on the detected information, producing a blocking state of operation in which at least one function of use is completely or partially blocked.

50. The input device as claimed in one of claims 39 to 49, characterized in that the external device is a motor vehicle.

51. The input device as claimed in one of claims 39 to 49, characterized in that the external device is a building control unit.

52. The input device as claimed in one of claims 39 to 49, characterized in that the external device is an entertainment electronics device control.

56. The input device as claimed in one of claims 39 to 49, characterized in that the external device is a house monitoring device.

53. The input device as claimed in one of claims 39 to 49, characterized in that the external device is a vending machine.

58. The input device as claimed in one of claims 39 to 49, characterized in that the external device is an official person identification device.

59. The input device as claimed in one of claims 39 to 58, characterized in that it can provide the external device with identification information and/or authentication information and/or configuration information.

60. The input device as claimed in one of claims 39 to 59, characterized in that it is set up for storing personal data.

61. The input device as claimed in claim 60, characterized in that the personal data comprise at least one data element from the group containing biometric data, age group features, age data, name data, birth data, residence data, property data.

62. The input device as claimed in one of claims 39 to 61, characterized by an input device display for displaying texts and/or graphical information.

63. The input device as claimed in claim 62, characterized in that the input display is a touch screen display.

64. The input device as claimed in claim 63, characterized in that the input device is set up for receiving relative location data input by the user by means of the touch screen display.

65. The input device as claimed in claim 64, characterized in that the input device is set up for triggering at least one selection process by operating the touch screen display.

66. A portable digital computer comprising an inbuilt coupling device which is set up for receiving mouse signals of a cableless mouse provided with a battery and fed by the battery, characterized by an inbuilt power source and an electrical interface connected to the power source and permanently installed, which is set up for charging the battery.

67. The portable digital computer as claimed in claim 66, characterized by a plug-in connector device which is set up for receiving the mouse signals by means of a serial bus conducted through the plug-in connector device, the serial bus being set up for representing the power supply for charging the battery, and the inbuilt

coupling device being deactivated and the mouse signals being received via the serial bus when a mouse is connected to the plug-in connector device.

68. The portable digital computer as claimed in claim 67, characterized in that the serial bus is a USB Universal Serial Bus.

69. The portable digital computer as claimed in claim 67, characterized in that the serial bus is a firewire bus.

70. The portable digital computer as claimed in claim 66, 67, 68 or 69, characterized by a recess which is set up for receiving the cableless mouse.

71. An input device for a portable digital computer, with a cableless mouse, an additional slide pad being arranged on the top of the cableless mouse.

72. The input device as claimed in claim 71, characterized by a housing which is set up for being able to be inserted and fixed in a recess in the housing of a notebook, the recess being a bay, a depression or a drawer-like opening.

73. A portable digital computer having the following:

- a) a computer housing with a recess,
- b) a power source arranged in the computer housing,
- c) a first coupling device for wireless data transmission,
- d) an input device
 - da) with an input device housing,
 - db) with a battery,
 - dc) with a second coupling device which is set up for the wireless data transmission with the first coupling device, and
 - dd) with an input device for inputting relative location data for controlling a cursor,
 - de) the input device being set up for receiving analogously relative location data due to a corresponding movement of a hand or of at

least one finger of a hand of a user or relative location data due to a corresponding movement of the input housing with respect to a base,

- e) wherein the recess of the computer housing is set up for receiving the input device housing and the battery can be charged by the power source when the input device housing has been received by the recess.

74. The portable digital computer as claimed in claim 73, characterized by a wire-connected coupling device for transmitting data, wherein the coupling device can be deactivated for wireless data transmission and the wire-connected coupling device can be activated when the input device housing has been received by the recess.

75. An input device for a portable digital computer, having the following:

- a) a housing with a front surface and a rear surface,
- b) an electronic control unit,
- c) a first input device, arranged on the front surface and electrically coupled to the control unit, for inputting relative location data, the first input device being set up for analogously receiving relative location data due to a corresponding movement of a hand or at least one finger of a hand of a user, and
- d) a second input device, arranged on the rear surface and coupled to the control unit, for inputting relative location data, the second input device being set up for analogously receiving relative location data due to a corresponding movement of the housing with respect to a base,
- e) an electronic communication device for transmitting relative location data of the first input device and/or the second input device to the portable digital computer,
- f) the housing being set up for being detachably locked at a housing part of the portable digital computer.

76. A portable digital computer having the following:

- a) a housing, and
- b) an input device as claimed in claim 75,
- c) wherein the input device can be detachably locked at the housing.

77. A portable digital computer having the following:

- a) a housing with a front surface and an opposite rear surface which can be used in two different user-settable operating modes,
- b) an input device for inputting relative location data for controlling a cursor, the first input device being set up for analogously receiving relative location data due to a corresponding movement of a hand or of at least one finger of a hand of a user,
- c) the input device being arranged on the front surface in the first operating mode and being arranged on the rear surface in the second operating mode.

78. The portable digital computer as claimed in claim 77, characterized in that the change from the first operating mode to the second operating mode and conversely is effected due to the fact that the input device can be taken out of the housing and reinserted in a changed orientation.

79. The portable digital computer as claimed in claim 78, characterized in that a different input device can be inserted.

80. The portable digital computer as claimed in claim 77, characterized in that the change from the first operating mode to the second operating mode and conversely is effected due to the fact that the input device can be pivoted about a pivoting axis located in parallel with the input surface.

81. A notebook with a keyboard and with a slide pad and at least one slide pad key, the notebook being set up for being operated in a first operating mode in which the slide pad and the at least one slide pad key are located on the same housing side as the keyboard, and the notebook, furthermore, being set up for

being operated in a second operating mode in which the slide pad and the at least one slide pad key are located on the rear of the housing opposite to the keyboard.

82. The notebook as claimed in claim 81, characterized by a touch screen and a pen holder, wherein an operating pen for operating the touch screen can be stowed in the pen holder.

83. A portable digital computer having the following:

- a) a housing, accommodating a computer device, comprising a first housing leaf and a second housing leaf, the first housing leaf and the second housing leaf being connected to one another by means of a hinge so that it can be opened and shut like a book,
- b) a display device arranged on the front of the first housing leaf,
- c) a keyboard device arranged removably on the front of the second housing leaf, which is provided with a first transmission device for exchanging data with the computer device,
- d) a mouse device inserted removably into a recess in the second housing leaf, which is provided with a second transmission device for the wireless data exchange with the computer device,
- e) the housing being set up for being placed on an essentially level surface in such a manner that the front of the second housing leaf, with the keyboard device removed and mouse device removed, can be placed on the essentially level base, the angle between the rear of the first housing leaf and the rear of the second housing leaf being adjustable to a value of less than or equal to 90°.

84. A portable computer comprising a housing and a finger- or hand-operable input device having mouse or mouse-like functions and used for inputting location-related data, which input device

- a) can be inserted into a plug-in recess of the housing for use within the computer and can be unplugged out of the plug-in recess for use outside the

computer and in these two states can be brought into input connection with the computer and can thus be used for inputting,

- b) can be coupled wirelessly with the computer at least in the state removed from the plug-in recess, and
- c) has its own battery which can be charged via the computer in the plugged-in state.

85. A mobile digital computer with a display device with at least one screen and a function module for navigational operation, facing away from the screen, with the fingers of a hand holding the computer, wherein the function module can be decoupled and used as external mouse.

86. A mobile digital computer with a display device with at least one screen and with a decoupleable function module, the function module in the decoupled state becoming effective outside a predetermined minimum distance from the display device, the display device, when the predetermined minimum distance is exceeded, automatically being

- a) blocked and/or
- b) a screen saver being activated on the display device and/or
- c) the display device being placed into an idle state and/or
- d) the display device being switched off,

wherein this effected operating state can be cancelled again when the function module of the display device approaches to a distance below the predetermined minimum distance and is effectively coupled to the display device.

87. The digital computer as claimed in claim 86, characterized by an input device provided at the display device, wherein the effected operating state alternatively can also be cancelled by inputting a password into the input device.

88. The digital computer as claimed in claim 86 or claim 87, characterized in that the function module is set up for at least one further function.

89. The digital computer as claimed in claim 88, characterized in that the further function comprises a cursor control function.

90. The digital computer as claimed in claim 89 or 88, characterized in that the further function comprises a data storage function.

91. The digital computer as claimed in one of claims 86 to 90, characterized in that the effective coupling is produced by a radio signal, by an infrared signal or by a cable connection.

92. The digital computer as claimed in one of claims 86 to 91, characterized in that the effective coupling includes an identification and authentication between the function module and the display device.

93. The digital computer as claimed in one of claims 86 to 92, characterized in that the function module and the display device are set up for being mechanically integrated to form a complete device.

94. A mobile digital computer with a display device with at least one screen and an integrated decoupleable cursor control module which is effective both in the integrated state and in the decoupled state, wherein a coupling bay which becomes free in the decoupled state is constructed and set up in such a manner that at least one other external device can be effectively connected or coupled via the coupling bay, wherein the same coupling interface of the cursor control module can be used and/or at least one further interface is provided on a side edge of the coupling bay.

95. The digital computer as claimed in claim 94, characterized in that the interface of the cursor control module provides both for power supply and data traffic, the cursor control module switching to a wireless connection on decoupling and remaining effective as external mouse.